GrummanWorld

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Grumman Kits To Help Coast Guard Secure Copters On Deck

When a bald eagle clutches its prey, there are few forces strong enough to loosen the grip of its talons. On August 4, the United States Coast Guard awarded Grumman a contract to give some of its helicopters that same strength when landing.

The Grumman St. Augustine Division will modify and equip two of the Coast Guard's HH-65A Dolphin helicopters with a TALON decklock system for operations at sea. Grumman will also provide a kit for a third installation by the Coast Guard.

The initial award is for $3 million. If all options are exercised, the total contract would be worth $8.6 million.

They'll Be Secured. *Grumman will install the TALON decklock system aboard two of the Coast Guard's HH-65A Dolphin helicopters. Once installed, the crafts will be able to lock onto the carrier's deck. (U.S. Coast Guard photo)*

When a helicopter lands on the deck of a small ship in high seas and winds, the ship's crew has to tie the craft down as quickly as possible. However, before the rotors completely stop spinning they sometimes tilt as low as 5'2". "Unless members of the crew are shorter than that, it can get very dangerous," says Bob Rispaud, the program's manager.

The TALON decklock system, manufactured by Fairey Hydraulics, Ltd. of Great Britain, contains a probe similar in shape to a bird's talon. The probe locks into a grid system on the helicopter landing pad situated aft on Coast Guard cutters.

The crew can wait for the helicopter's rotors to stop spinning before venturing out to tie it down. "However, the locking system will hold down the craft secure against 8,000 pounds of force," says Rispaud. "So unless conditions are very bad, there may not be a need to tie it down at all."

To use the system, the pilot of the helicopter will land on the ship's deck over the grid. By actuating a switch, the pilot releases the probe which will lock into the grid. If it misses, the probe will automatically reset itself and try again.

"This system is already in use with several foreign navies," says Rispaud. "The United States Navy uses a winch system."

Approximately 35 people from the St. Augustine facility will work on the program. The contract calls for the design and preparation of a prototype that will be delivered to the Coast Guard in July of 1989.

Grumman will install the TALON probe, an actuator, two struts, an interface manifold, and associated wiring and hydraulics. The contract also includes pilot and maintenance training on the system. In addition, Grumman will install the system on a second helicopter and prepare a kit for a third.

If the contract's options are exercised, it would call for the production of 93 installation kits and 53 removable probes, which would be installed by the Coast Guard.■

Second Quarter Sales, Earnings Increase

Grumman Corporation net income for the second quarter of 1988 increased 56 percent to $18.8 million or 53 cents a share from $12 million or 33 cents a share in the year-ago quarter.

Quarterly sales grew nine percent to $873.7 million from $803.6 million as deliveries increased for both the Navy's F-14 aircraft and the Postal Service's delivery truck.

Interest expenses went up by $6.7 million to $20.8 million while research and development expenditures declined $9.2 million to $5 million.

For the first half of the year, net income was $39.8 million or $1.14 a share on sales of $1.78 billion. Comparable 1987 income from continuing operations was $34.9 million or 99 cents a share on sales of $1.66 billion. In the first quarter of 1987, the company's net income included $35 million or $1.07 a share due to a change in accounting for income taxes, which made net income for the first six months of 1987 $69.9 million or $2.06 a share.

In the second quarter in Grumman's aerospace business segment, income jumped 78 percent on a six percent sales increase. Income was $30 million on sales of $626.9 million up from $16.8 million on sales of $592.4 million. In the year-ago period, no F-14s were delivered to the Navy because the production was being switched to a new model. Sales for the no-profit F-14D and A-6F development programs were down substantially in the 1988 quarter.

In the special purpose vehicles segment, sales for the quarter doubled to $100.5 million from $50.1 million. Income was $4 million up from $2.5 million. This was due to full production of delivery trucks for the U.S. Postal Service. In the first quarter of this year, Grumman reached its full production rate and delivered 5,000 units in both the first and the second quarter.

Sales in the information and other services segment increased to $132.9 million from $113.8 million and operating income was $13.6 million up from $12.3 million. This was due primarily to the Space Station Program Support contract for NASA which began in the third quarter of 1987.

In the fourth business segment, electronics systems, sales declined to $126.7 million from $155.9 million while income increased to $2.9 million from $2.3 million. Revenues were down on the Joint STARS radar aircraft program for the Air Force and Army following government spending plans on the five-year development program.

"The Joint STARS program has been a technical challenge to Grumman, its suppliers and customers," said Chairman John O'Brien. "That challenge is being met. It has, however, caused what we estimate to be a nine-month slip in the original program schedule. We are currently assessing the total effects of this delay.

"Our second quarter showed solid performance," said O'Brien. "In aerospace, our largest business segment, we saw profit margins increase to 4.8 percent from 2.8 percent in the second quarter of 1987 and 4.3 percent in the first quarter of this year.

"Grumman expects steady, long-term growth in both sales and profits. This is evidenced by our performance and our backlog which remains at its record high of $7.9 billion," he concluded.■

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'Launch Fever' Rises As Discovery Flight Nears

The Technical Services Division's Shuttle Processing Contract (SPC) team is working three shifts a day, seven days a week to help launch the first shuttle since the Challenger disaster.

At 7:30 a.m. on Wednesday, August 10, Discovery's main engines were successfully test fired. "Everything went great," says Skip Olson, Grumman vice president and project director of the SPC at the Kennedy Space Center in Florida. Many Grummanites had been on the job since 2 a.m. to run the test.

Technical Services operates and maintains the computers and software used to prepare and launch the space shuttle. The division is also responsible for instrumentation and calibration at the shuttle launch site.

The success of the August 10 test did much to raise the spirits of everyone at the center. Olson believes that even the previously aborted firing was a morale booster in its own way.

"We want the computers to stop a countdown if there is a problem. It just goes to show that our systems are working the way we want them to," he states.

Such good feelings have been a long time coming for the people who witnessed the Challenger disaster.

"I don't think the pain will ever go away for anyone who witnessed it," says Olson, recalling the Challenger accident on that cold Tuesday morning of January 28, 1986. "People reacted in a couple of different ways to the disaster," he remembers. "Some just couldn't believe it happened. Others needed to be alone."

The halt of launches meant layoffs — 200 people on the Grumman team. But the remaining 504 worked at making an even safer shuttle launch processing system (LPS). "We took advantage of the downtime to make sure everything we did was an improvement over what we were doing," Olson says.

Over 200 modifications were made to the orbiters and launch hardware. Virtually all the launch processing software was changed. Grumman performed major upgrades to both the LPS and the Permanent Measurement System, which monitors all the systems on the shuttle. The number of measurements to be tracked down on the next launch have grown from 165 to 750, primarily to record data on the redesigned Solid Rocket Booster.

Once preparations for a launch began, people were rehired; new talent was added. The Grumman contingent reached its full strength of 715 in July.

Ready To Go. *The successful test firing of Discovery's main engines was a morale booster for the entire launch processing team. A 'Go' to launch waits only for a successful final test of the solid rocket boosters. (NASA Photo)*

Grumman's performance has been praised by Pat Yont, director of Lockheed's Shuttle Support Operations. At a recent gathering, he said, "I never get anything less than a first-class job out of my Grumman friends, and I appreciate that. I'm really high on Grumman."

Al Parrish, director of Ground Engineering for NASA, recently said, "We see Grumman as a great team member. We're really proud of them and the job they've done."

Olson says, "The rollover from the Orbiter Processing Facility (where Discovery spent over two years being prepared for launch) to the Vehicle Assembly Building (where the external fuel tank and solid rocket boosters were mated) did a lot for morale." That took place at the end of June. "With a successful main engine firing behind us, launch fever is definitely in full swing."■

Grumman Studying Real Estate Use

If you were smart enough to buy a house on Long Island in the 1930's, you know what has happened to real estate values. Your $3,000 house is probably worth about $185,000 today.

To benefit from the appreciation of its property, Grumman recently announced that it is studying other uses for 200 acres in Bethpage. The property includes the Bethpage airfield with its 6,653-foot-long runway. Closing the airfield would reduce Grumman's operating costs and eliminate some air traffic in the Bethpage area. The company would still maintain a heliport for use by the Nassau County Police Department.

"We intend to continue building airplanes here on Long Island, but in order to do that we must find ways to reduce our costs," said Grumman Chairman John O'Brien. "If we can get by without an airfield in Bethpage, then we should use that property for a better purpose that is consistent with the plans and the needs of the community."

Of all the major aerospace companies, only Grumman owns and operates an airfield — and Grumman operates two. Boeing Field is a municipal airport; General Dynamics uses the Fort Worth municipal airport, and McDonnell Douglas uses the St. Louis municipal airport.

Grumman could use the land in several ways. It could develop the property on its own; form a partnership with a real estate developer and a tenant company; or sell the land.

"Of those three options, forming a joint venture is presently the most likely and the most attractive to us," said O'Brien. He emphasized that Grumman is just beginning to explore with local government officials how the development of this property would be affected by current zoning regulations, environmental and community development plans and other local considerations. "The studies will probably take several months," O'Brien noted.

The only aircraft that are now assembled and test-flown at Bethpage are the E-2C Hawkeye and the C-2 Greyhound. Greyhound production ends next year, and the E-2C could be shipped by truck to Calverton for flight testing.

"We recognize that many people will have a very emotional response to this decision, because the airfield is part of our history here," said O'Brien. "But it costs a lot of money to operate and maintain an airfield. Right now, we're using it for only about 40 flights a week, and hanging on to it just doesn't make good business sense. We can use the money to reduce our debt — and lowering our costs will help make us more competitive."

Note: *O'Brien had more to say on this subject at a recent pin meeting.* *See Page 3.*■

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Norine Lyons
Director - Corporate Publications
575-3720

Kathleen Housley
Editor — 575-3293

Associate Editors
Bob Sample — *575-5118*
Susan Vassallo — *575-8999*
John Vosilla — *575-5119*

Bernadette Gately
Editorial Assistant — 575-4334

Mail Stop — A22-GHQ

Grumman World Telecopier —
(516) 346-9614

'I Heard It At The Pin Meeting'

O'Brien Talks About Real Estate, Raises, Rumors

On August 12, Grumman Chairman John O'Brien met with Grummanites celebrating their five, 10, 15 and 20 year anniversaries with the company. The pin meeting was held in headquarters' auditorium; some highlights of that meeting follow.

John O'Brien: Okay, let's get rid of a few rumors just to start things off. There is no truth to the rumor that there will be a massive layoff at the end of August. No truth to that at all.

There is some truth to the rumor that we are looking at ways to develop some of our property. Those of you who believe that we are closing our runway tomorrow are wrong — but there's a lot of acreage out there underneath 12 inches of concrete. That land cost us $100 to $400 an acre, and if we develop it, it could be worth a million an acre. And as stockholders, you should think that it's stupid not to develop that land and get the income from it, increase the equity in the company, get the stock price up to 30, float another stock issue, and have more money to develop future products.

That's what it's about. But when somebody sees two people walking around with a camera, that's when the rumors start: "They're going to tear our building down tomorrow!" Well, nothing happens that fast in this business.

Will there be some relocations? Yes, eventually. But we try to be fair when we do it. In 1954 when I started working here, I lived in Huntington and drove a rather large Ford station wagon. Three months later, I was sent out to Peconic. After a few months of that long ride in my Ford, I figured I'd better buy a gas station or a Volkswagen. So I understand resistance to change, because I resisted it myself. But to survive in these very tough times, we're going to have to make some changes — and I'll be as open with you as I can about them. As we have more information about our development plans, you'll read about them in *Grumman World*.

So those are the couple of rumors I've heard about. Any others you want to start?

'An F-14 can be upgraded to do 99 percent of what the ATF will do — and at 60 percent of the cost.'

What is Grumman doing about our environment problems on Long Island? Are there any problems with the way we dispose of waste?

O'Brien: All of our waste is taken out of here by licensed haulers and by our own people and taken to dumps and disposed of properly. As I understand the present law, even if we hire someone to haul toxic waste and they dispose of it illegally, we're responsible. So we pay a lot of attention to it. At any rate, we don't use as many toxic substances as people seem to think we do. We're sensitive to the problems with our environment. I'm as frustrated as you are that we have the world's best beaches and we're unable to use them, since I'm a beach nut myself.

Why are we cutting back on our research and development spending? Isn't that short-sighted?

O'Brien: You have to make money to spend money — and we're not making a lot of money on our production performance right now. Now, I don't mean to imply that our production people are causing the problem, because they're not in most cases. But when you don't make money, you can't spend a lot on R&D without going further and further into debt. We've spent four or five hundred million dollars on R&D in the past five years, and we're just starting to recoup some of that in our programs. So in my opinion, it's time to sit tight and get our profits and stock price back up — then we can start spending on our future again.

Is Grumman worried that so many young people are leaving the company?

O'Brien: It's a serious problem, and we're well aware of it. Some of them are leaving because it's just very expensive to live on Long Island, and I don't know how to solve that.

Others are leaving because they are frustrated in their short-term view of the company. They're discouraged because we don't have one of the three "A's" — the ATF, the ATA, or the ATB [Advanced Tactical Fighter, Advanced Tactical Aircraft, Advanced Tactical Bomber].

'Too often, I find that people just sit with the frustration and aren't raising enough hell.'

But I don't think they're looking at the economics of the defense business. It's likely that all three of those programs are going to be slowed down, and that the operating airplanes will have to be improved. An F-14 can be upgraded to do 99 percent of what an ATF will do, and at 60 percent of the cost. We're working on all those things, but they're not headline items.

What's the raise budget going to be for next year?

O'Brien: Personally, I don't believe in raise budgets. I believe a manager should be told, "The cost of your operation in 1988 was X, we can afford it to be Y in 1989 — now go and manage it." That's better than handing him a raise budget that says, you can give everybody a 2.36 percent raise this year. I don't think that promotes performance of high-skill people: instead, it promotes and encourages mediocrity. I think we should give raises to people who do an outstanding job. The fact that 12 months have gone by is no reason to give a person a raise.

If the Democrats win the November election, what will happen to the BSTS program?

O'Brien: I think it will survive. It is not really SDI, it is not an offensive weapon. In many people's minds, it will be needed to carry out the observation part of the treaty that's just been signed. But no matter who gets into the White House, there will be tremendous pressures on the defense budget.

Do you have a master plan to reorganize the company?

O'Brien: No. If you hear that I am going to eliminate divisions or put them all back together, you're hearing rumors. People complain that we created all these divisions, but when you think about it, most of them existed before: we just called them something else. St. Augustine, Allied, Data Systems, for instance, were already there and operating. We created Space Systems, Electronics Systems, Melbourne Systems — but when people tell me that divisionalization causes them all these horrendous problems, it really makes me roll my eyes.

Why does it take so long to order simple things? We ordered casters for a computer table in January and we still haven't gotten them.

O'Brien: There's no reason why it should take a long time. We have all kinds of short-buy systems and long-buy systems and instant-buy systems, or petty cash. Maybe you should just drive down to the store and pick up four casters?

Simple orders just get bogged down in the bureaucracy...

O'Brien: Why don't you ask the people who placed the order? Too often, I find that people just sit with the frustration and aren't raising enough hell. If you ordered a telephone from the telephone company in January, you would have been through a lot of people in the telephone company by now, wouldn't you? Why not find the person who's responsible for your order and ask him why he isn't doing his job?

I don't think he knows the answer...

O'Brien: I'm sorry to pick on you, and I'm not picking on you as a person. But I'm trying to tell 33,000 people in this place, if you're not satisfied with what the guy next to you is doing, raise hell with him! Demand the things you need to get your job done, and maybe we'll steam this whole place up.

Can I respond to his question? The real problem is that we have all these systems and procedures — it's the way it's set up...For instance, I have 200 requisitions on my desk right now...everyone in my group is overworked...it's impossible to deal with...

O'Brien: Sure it is. So let's change the system.

What people are tending to do is to ask me to change everything, and I can't do that. As chairman, I cannot fix the problems on your job and still do my own. You have to solve the problem where it exists. And if your boss doesn't respond to you, go to his boss: you have a right to do that.

But don't just go to your boss and say, "I'm overworked, I've got 200 requisitions on my desk." He can't do anything about it, because he's probably overworked, too. Give him an idea of how to fix it. If you're sitting in the middle of a systems problem, sit back for a half hour and think about how to fix it.

'Demand the things you need to get your job done, and maybe we'll steam this whole place up.'

Could you clarify the rumors about layoffs?

O'Brien: The layoff we announced last spring is still going on. But there's a rumor that there's going to be a massive layoff on top of that in August or September, and that's not true.

Well, are we close to the cap on the layoff announced in the spring?

O'Brien: If you're talking about the hundred or so layoffs per month that started in the spring, yes — that's tapering off, and attrition is solving some of the problem. We're getting some stability coming into next year.

But we're always going to have some layoffs,

(Continued on page 4)

Pin Meeting

(Continued from page 3)

especially as we become more efficient. That paternalistic part of Grumman has to change — that tendency to keep people on even when we don't have legitimate work for them. It's not good for us, and, really, it's not good for those people.

Are we going to have a 'golden handshake' program?

O'Brien: No. There are a lot of people who want me to do that, but it costs us a lot of money, and we lose a lot of good talent. If you have someone working for you who's not performing, you should lay that person off. You ought to treat the job as if it's your own doughnut shop. If you were paying someone to produce so many doughnuts per minute and he wasn't performing, first you'd make sure that he had been properly trained; you'd give him a chance. If he still didn't do the job right, you'd let him go. We ought to treat Grumman's money the same way.

I enjoyed this exchange. Please go back and spread the word on the things we talked about this morning. You know, I've been to all the other aerospace companies. Person for person, we've got more talent in this place than any of them — so don't get down on yourselves. But we need everybody's help to make Grumman more efficient, and that will get us more jobs.■

EIP Match

For the fourth quarter of 1988, the Employee Investment Plan's matching rate will continue to be 50 percent.

Birds Of A Feather. *An Air Force E-3 Airborne Warning and Control System (AWACS) aircraft (background) taxis to the Grumman Melbourne Systems facility in Florida. The service wanted Grummanites who are building the Joint STARS E-8A (foreground) to study an operational aircraft having similar consoles and operator workload.*

AWACS Visits Melbourne Systems

In an unprecedented visit, an Air Force E-3 airborne warning and control system (AWACS) aircraft landed on August 16 at Grumman Melbourne Systems, home of the Air Force/Army Joint STARS program. The AWACS crew gave Joint STARS engineers a hands-on demonstration of the plane's operational capabilities. AWACS is the closest aircraft to Joint STARS now flying.

The visit, named "Reverse Blue Two" by Tactical Air Command (TAC) people, is a turnabout of the Air Force's "Blue Two" visits. Blue Two is named for the lowest rank of airmen who operate consoles on AWACS and similar craft.

Typically in these demonstrations, industry engineers view an operational system at its home base. The purpose of Blue Two is to show the designers and developers of new systems the actual conditions that face military operators, the problems that result from those conditions and designs that don't accommodate them. The Air Force believes that exposing senior industry leaders and engineers to the real environment will result in better equipment.

Because of the importance the Air Force and Army place on the Joint STARS program, TAC felt that the maximum number of engineers and managers should see the AWACS — so they brought AWACS to them.

Tours of the aircraft and demonstrations of the AWACS operations illustrated to some 170 Grumman engineers how real-world situations are handled in the AWACS. It is expected that the demonstrations will help Melbourne Systems people to develop operational applications for Joint STARS.

Jerry Sandy, a Joint STARS ILS systems engineer, spent three hours in the AWACS. "The visit was worthwhile to determine where we can improve and where we have already improved," says Sandy. "We talked to the crew members to see what problems they have and things they'd like to see changed."

He did see that improvements the ILS group had made to some Joint STARS designs were similar to successful systems they saw in the AWACS. "We saw where we had made definite improvements, mainly the equipment installation," he adds.

A Grumman training specialist, Bob Coggins, logged over 3,000 hours in the AWACS as a mission crew commander during his Air Force career. "Grumman people got to see 15 consoles on board an airplane," he says. "To the engineer who hasn't seen anything like that before, it gives him a physical understanding. He's seen drawings. Now he sees a console with an operator working at it."

The AWACS, part of the 28th Air Division's 552nd Wing, returned the following day to Tinker Air Force Base, Oklahoma City, Oklahoma.■

F-14A(PLUS) Is Getting Great Grades

"The Navy is going to have to rewrite the tactics manual. It outperforms everything."

Of course, Dick Armstrong is a bit biased towards the new Grumman F-14A(PLUS) Tomcats. He's Grumman's site manager at NAS Oceana, Virginia, where the first F-14A(PLUS) Tomcats are being flown by the East Coast readiness squadron, VF-101.

The F-14's new General Electric engines each turn out 7,000 pounds more thrust than the engines in the original Tomcat.

"In essence, this is what the Navy has been after since the airplane was introduced," says Cdr. Jay Campbell, VF-101 skipper. His squadron now has six new F-14A(PLUS) aircraft and another on the way.

According to Campbell, the squadron flies four F-14A(PLUS) planes two or three times a day. Another is used for maintenance training and the other two are normally undergoing inspections or some other requirement.

Comparing the A(PLUS) to the original Tomcat, he says, "It still is very much an F-14A because the electronic components are virtually the same, but the comparison is virtually night and day in terms of air combat. You can take the airplane into regimen you were restricted from in the F-14A."

Campbell knows Tomcats well. He was a member of the first East Coast squadron to get the F-14 and was part of the first Tomcat deployment to the Mediterranean, aboard the *U.S.S. Kennedy*. He also was the first F-14 operational test director.

"This is the airplane we always wanted and thought we would get with the F-14B, but we had to wait for a while." When the F-14 was introduced, the Navy had wanted higher thrust engines for a "B" model. But those engines were never produced.

The new General Electric engines, in addition to 30 percent more thrust, give the Navy significant maintenance advancements. "The real wonder of the engine is that it doesn't require periodic inspections out of the airframe," Campbell says. "Also, it requires no trimming."

After maintenance, the older F-14A has to be taken where the engines can be run up to their full power and tested — trimmed — before the plane can be flown again. On a busy carrier deck, finding the necessary isolated spot is not easy.

"I don't like to use words like 'hot rod' or 'rocket' to describe a plane, but they do the job here," says Campbell. "We've got an airplane that we can climb into and fire it up — and everything works right."■

Next Issue: September 9

O'Brien Testifies Before Senate Finance Committee:

'The Aerospace Industry Strongly Opposes Being Singled Out To Provide Additional Revenue By A Grossly Unfair System'

A tax law change now winding its way through Congress would cast a pall over the defense industry.

Called the Technical Corrections Bill, the change would accelerate taxes due on profits earned from multiyear contracts. If it becomes a law, it would cost defense contractors billions of dollars over the next five years.

Grumman Chairman John O'Brien is leading the defense industry's fight against the tax change. Earlier this year, he was named chairman of the Aerospace Industries Association (AIA) Tax Matters Committee; he also serves on the AIA's board of governors.

"John O'Brien is leading the industry-wide effort," says Doug Dahlgard, Grumman's director of taxes. "The aerospace industry's tax experts and its Washington representatives have been working on policy issues for some time, but when a company chairman comes down and rolls up his sleeves — it becomes a new ballgame. It sends a message — and it gets people's attention in Congress."

Last month, O'Brien testified before the Senate Finance Committee to voice the defense industry's opposition to the proposed tax change.

"Since 1982, changes in the method of accounting for long-term contracts have increased the taxes of the aerospace industry dramatically," O'Brien told the Finance Committee. "These changes are expected to raise almost $40 billion from 1982 through 1992, by accelerating taxes paid by long-term contractors. A survey of 11 major aerospace companies shows their average effective tax rate is expected to be 60 percent in 1988."

'These changes are expected to raise almost $40 billion from 1982 through 1992, by accelerating taxes paid by long-term contractors.'

Until two years ago, all long-term contractors used an accounting standard called "completed contract" method. That allowed the contractors to defer taxes until the contract was completed. Since contractors incur high costs and make little profit until a long-term project nears completion, the "completed contract" method protected them from paying taxes on nonexistent income.

However, critics pointed out that because of this deferred tax method, some defense firms paid little or no taxes.

"Starting with the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982, long-term contractors came under attack because of low tax payments in relation to financial statement profits," said O'Brien. Companies must keep two books: a record for the Internal Revenue Service and the traditional financial statements for their shareholders and the Securities and Exchange Commission.

"Substantial changes were made in TEFRA which increased effective tax rates significantly," he said. "But because of a three-year phase-in of the TEFRA reforms, long-term contractors came under attack again as low payers of tax in 1986."

'A survey of 11 major aerospace companies shows their average effective tax rate is expected to be 60 percent in 1988.'

In the 1986 Tax Reform Act, the system of cost-to-cost percentage of completion was imposed on 40 percent of the income from long-term contracts. This new accounting method is based on the falsehood that each dollar of contract cost produces the same amount of income. The 1986 change boosted the amount of tax paid by long-term contractors and added $3.5 billion to the tax coffers. In 1987, the percentage was increased to 70 percent to raise an additional $2.2 billion.

"The cost-to-cost percentage of completion method, currently used to report 70 percent of the income from a long-term contract, is not a proper or fair system," said O'Brien. "It taxes profits before they are earned. That is, before payment is received, before a right to income accrues under the contract, and before financial income is reported."

Under such a tax system, companies can be taxed on income before they've earned the income. O'Brien said that this is a significant departure from the U.S. system of taxing income when income is realized. "It's like taxing an automobile manufacturer on the profit in an automobile as it moves down the assembly line instead of when it is sold," he said.

"These tax changes to the method of accounting for long-term contracts alone will increase taxes by over $40 billion from 1982 through 1992," O'Brien added. "A large portion of this amount will be paid by aerospace companies."

According to Dahlgard, the Technical Corrections Bill passed by the House of Representatives last month contains yet another restriction on the aerospace industry. The provision would require that all income from long-term contracts be reported under the cost-to-cost percentage of completion method. This change would totally eliminate the completed-contract method. It would supposedly reap another $2.4 billion in tax revenues over three years.

Under the new method, for instance, a contract that expects a 10 percent profit on a contract is deemed to earn a profit equal to 10 percent of the cost of the materials at the time they are purchased for use in the contract — even before any work is performed on the contract.

O'Brien used the Grumman F-14 program as an example. "A Navy-Grumman contract to build 30 F-14's may take five years. For the first three years Grumman is incurring costs — buying and machining material, buying subsystems from subcontractors and actually spending about 60 percent of the total contract cost. This is before even one plane is completed," said O'Brien.

"Grumman is only entitled to receive 75-80 percent of allowable costs from the Navy in the form of progress payments," added O'Brien. "Full cost recovery and any profit on the contract is received in years four and five of the contract at the time the planes are delivered, tested and accepted.

"This new accounting method requires us to pay a tax on 60 percent of the contract profit," he said, "before we earn the right to bill the Navy for the profits related to the planes."

O'Brien says that some people have mistakenly thought of progress payments as being part profit. "They are not. Progress payments represent a financing method," said O'Brien.

The U.S. government finances part of the contract inventory. But in lieu of these payments, contractors cannot factor in an interest cost into the contract price. "The government feels that it can finance at a lower cost than a contractor," added O'Brien.

'These changes will add to the already serious cash flow problems of the industry by requiring the prepayment of taxes.'

"But progress payments do not represent profit under any definition."

"The aerospace industry strongly opposes being singled out to provide additional revenue by a grossly unfair system of taxing long-term contracts," O'Brien told the Senate Finance Committee. "These changes will add to the already serious cash flow problems of the industry by requiring the prepayment of taxes."

O'Brien suggested that the Senate

(Continued on page 8)

A Class Group. *At L, Bob Service of Data Systems studies the facilitators' training manual. Above, Doug Morgan of the Electronics Systems Division questions a point; next to him are Harlyn Van Sloten, of the Corporate Contracts department, and Don Purcell, of the Corporate Estimating Department. At R, instructor Jerry Christen draws an iceberg representing the costs of not doing quality work. (Photos by Bob Settles)*

Meet The Smart, Diplomatic, Unflappable Grumi

The discussion is at an impasse. The room has split almost evenly into two opposite factions. Each side refuses to listen to the other.

A neutral middleman can get both sides to reconcile and resume tackling the issue at hand. In Grumman's Total Quality Process, such a person is called the facilitator. Recently, 12 Grummanites became the first to be trained in this critical role.

The first part of their training was a course called "The Quality Advantage," held August 1-4 in Grumman Headquarters, Bethpage. Next, they will attend a five-day course about quality action teams. In addition to prodding quality action team discussions, the Grumman facilitators will eventually train their co-workers in the Total Quality Process.

"Facilitators are one of the most important parts of the Total Quality Process at Grumman at this point," says Dean

'These people are going to be at the forefront of the Total Quality Process.'

Cassell, vice president - Product Integrity and Environmental Protection. "This first class of facilitators represents the first step in making it truly *our* own program."

Organizational Dynamics, Inc., the consulting firm that developed the Total Quality Process, is now conducting training classes about the quality advantage and quality action teams. The Grumman facilitators will eventually take over these tasks. ODI will continue to train facilitators.

"They will act as the prime movers at a quality action team meeting," says Cassell. "They will make sure a team continues to follow the Total Quality Process, gets to the bottom of the problem, and not only resolves it but comes up with a way to keep it from happening again."

The selection of candidates was made by division presidents and vice presidents. All 12 chosen for the job had served at a supervisory level or higher. They will devote full time to this new role and keep at it for approximately one year.

"These people are going to be at the forefront of the Total Quality Process for the

'The job of facilitator is just as essential as program director or department head.'

next few years," says Cassell. "They have all demonstrated leadership, the ability to solve problems and a knack for handling people."

Self-confidence is another must for facilitators. They have to be able to put themselves in the middle of a heated discussion — and not get defensive. Other essential qualities include knowing the company, its product line, and how various departments operate.

Cassell says the people who take this new assignment are making a good career move. "The Total Quality Process is contributing to the very well-being of Grumman," he says. "The job of facilitator is just as essential as program director, program manager or department head.

"Certainly if you shine in this, it's going to make you more visible in your division and the corporation as a whole," Cassell adds. "That will provide you with career opportunities."

The quality advantage workshop was taught by ODI consultant Jerry Christen. The workshop touched on the two approaches to problem solving: the breakthrough, which is rare, and the more common type, where parts of the problem are tackled bit by bit. And consensus doesn't mean everybody votes "yes;" just that they all go along with the majority opinion.

During an action team meeting, a facilitator must remain impartial. Christen advised trainees to couch their opinions in nonjudgmental terms. Say, "I see" or "I hear you," instead of "great idea!"

In addition to information about quality, the class learned something about how to teach. Each class member had to give a 45-minute lesson.

Carole Korade, manager of network control for Grumman Data Systems and a class member, taught the section on the obvious and hidden costs of poor quality. Obvious costs include such things as mistakes, defects, and rework. The less obvious include retraining, confusion, unnecessary field service, and lost business. Korade says the "1/10/100 rule" illustrates that the earlier a quality problem is caught, the better.

"If an error is caught by the person who makes it, it costs $1 to fix," says Korade. "If caught by the internal customer — the next person down the line — it costs $10. If it goes to the ultimate customer, it costs $100 to fix. Why not just spend that extra dollar in the beginning?"

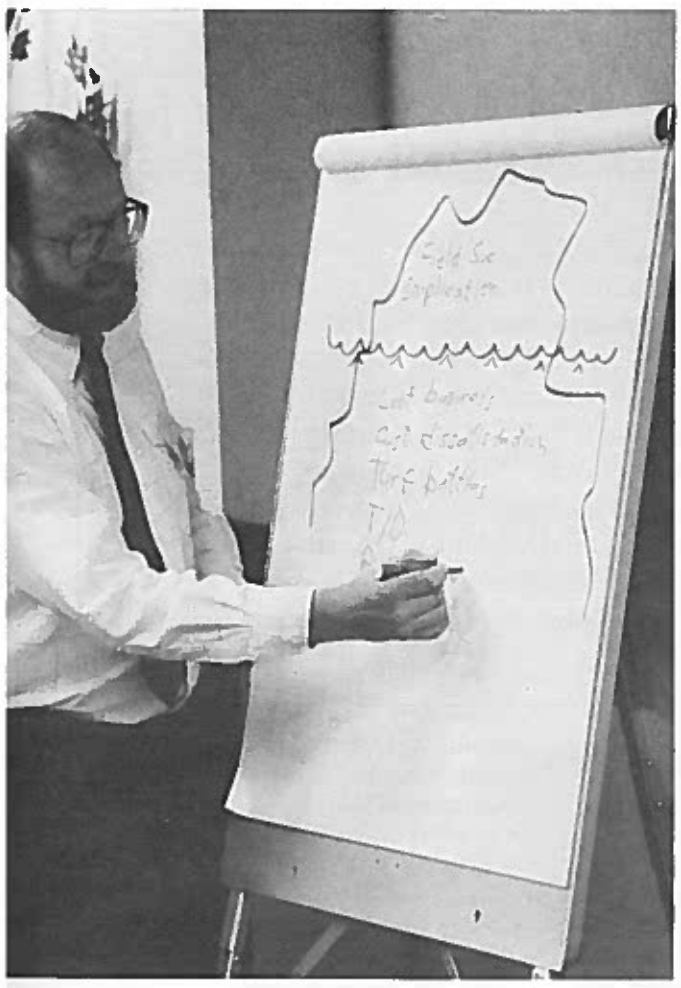
"We each faced the group, performed, and listened to our classmates' critiques," says another facilitator-in-training, Jim Erickson. "In the end we evaluated ourselves.

"I didn't know what to expect," says Erickson, who is staff assistant to the general manager, Aircraft Systems' Bethpage Operations. "But my wife is studying to

'Total Quality will go a long way toward improving our corporate culture.'

become a teacher, and my daughter to be a singer. They assured me that group evaluation is a common approach, and that the criticism would be helpful."

Erickson has had a longtime interest in quality improvement and has worked on several company committees toward that goal. "But whenever I've used the term quality in the past, I've focused on the product," says Erickson. "The Total Quality Process is a tool for improving the entire



an Facilitator

process. I welcome that."

Before these new facilitators begin moderating action team meetings, they will first co-facilitate with ODI. Harlyn Van Sloten plans to keep studying in preparation for these assignments. "The facilitator must really know the material and keep the class moving along," says Van Sloten, assistant to the director of the Corporate Contracts department.

Van Sloten was a natural choice for the role: he helped develop a training program for this section of Business Operations. "I'm really looking forward to getting the program started," says Van Sloten.

"We're still crawling," says Erickson. "None of us is ready yet to actually lead a quality action team or to teach. After we finish the second part of the course, we'll probably co-facilitate with ODI. But we've kicked it off."

Korade expects to encounter some apathy and downright resistance. "Part of the facilitator's job will be to motivate those people," says Korade, "to convince them that Total Quality is here to stay."

"In my view, a major challenge will come several years down the road, when the process isn't new anymore and people aren't as revved up," says Van Sloten. "We're all going to have to work hard to sustain the momentum.

"From what I've seen, we have the commitment from our corporation's leaders for that long haul," says Van Sloten. "That absolutely will make a difference."

"I know it sounds like motherhood and apple pie, but I'm a believer in the Total Quality Process," says Korade. "I would have told you that *before* I took the training course. It really is for our survival."

"The Total Quality Process will go a long way to improving our corporate culture," says Erickson. "I have a basic faith in the people at Grumman. That's where it's all going to take root — and where success is going to be achieved. All we'll do is facilitate the process."■

Commencement Address

"It's hard for a company to look at itself and say, 'we've got to change with the times'," Aircraft Systems President Pete Oram told attendees at the close of the first facilitators' course.

Oram is a member of the Grumman Advisory Board, responsible for implementing the Total Quality Process effort. He also heads a quality action team working to improve the procedure of obtaining statements of work.

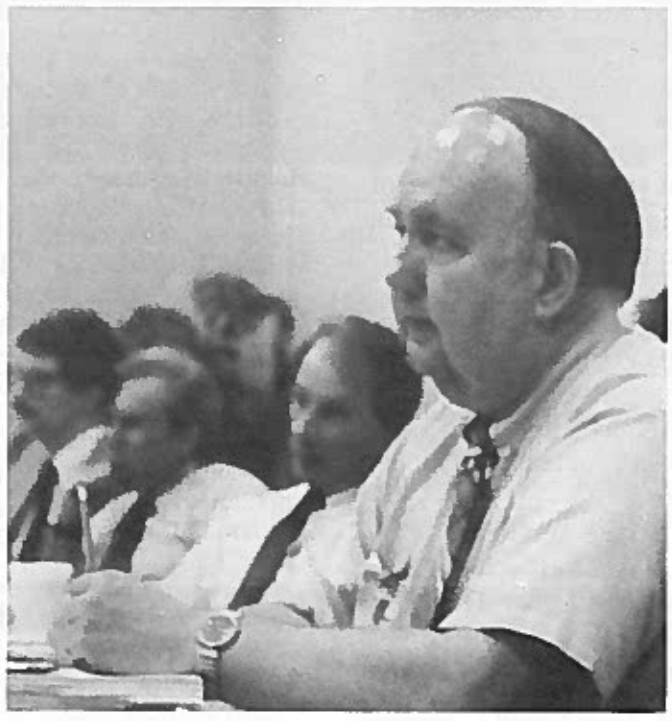
"The activity you are undertaking is essential," he said. "It's going to take time. Creating real change is probably the most difficult job anyone undertakes.

"Grumman is like some forms of plastic," he joked. "You can reshape it, but if you reheat it, it tends to go back to its original shape.

"It's important that we do everything we have to to get the Total Quality Process ingrained in the company. It has got to become like showing your badge to the guard in the morning.

"Your job will be frustrating at times, and we will all make mistakes," says Oram. "But there's one thing you can count on: the company's commitment to the Total Quality Process."

Means Grumman Quality



Meeting Of Minds. *Above, Jim Erickson of Aircraft Systems listens during another class member's lesson. At R (front to back), Jim Diffley, Stan Serota, and Lou Majore go over their notes. All work for Data Systems. Below, Jim Kinneman of Systems Support offers a critique; next to him are (L-R) Bob Service, Carole Korade, and Steve Calavas, also of Data Systems.*

O'Brien Testifies Before Senate Finance Committee

(Continued from page 5)
Finance Committee consider the "serious flaws" in the House's version and "substitute a new system of accounting for long-term contracts that is fair and consistent with the tax accounting systems of other U.S. manufacturers."

"Long-term contractors generally have no right to profit as they incur costs," said O'Brien. "Although they can borrow against their work-in-progress or progress payments, they cannot take mere expectations of unrealized profits to the bank to finance tax payments."

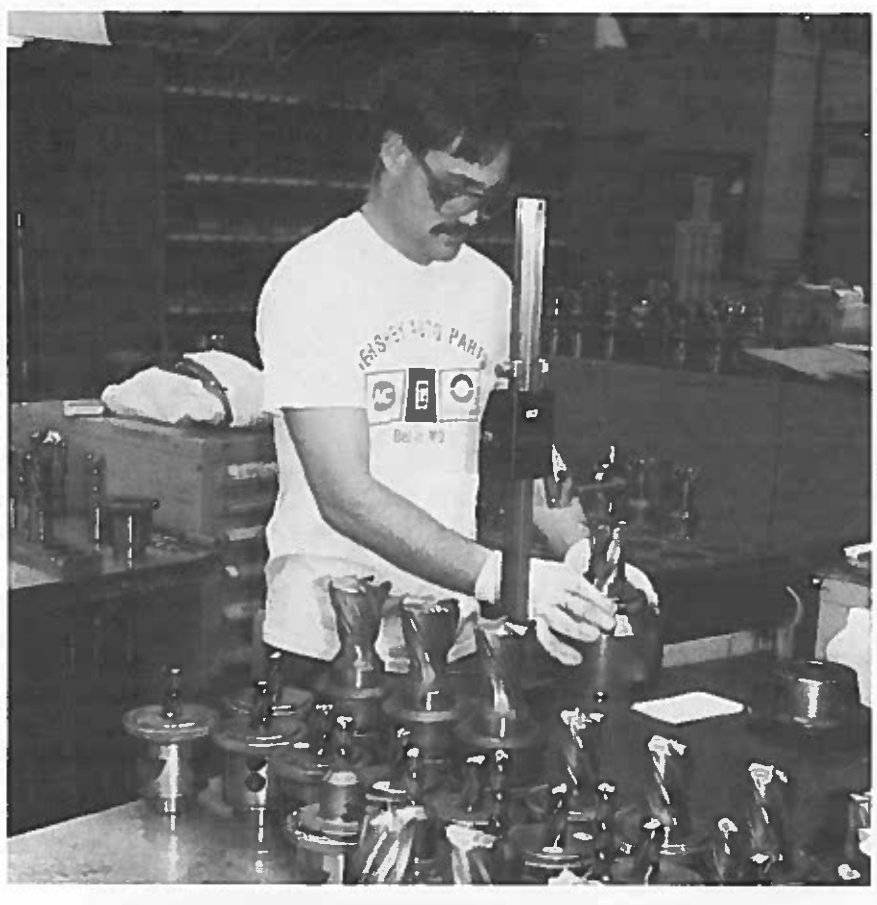
Supporters of the percentage of completion system argue that it is used for financial purposes, so it must clearly reflect the pattern of income earned. "Not all companies that are subject to percentage of completion for tax purposes use it for financial statement purposes," said O'Brien. "The percentage of completion system used for financial reporting is a very different system than currently is prescribed for tax purposes."

With respect to fixed-price manufacturing contracts, "no financial accountant would permit the blind adherence to cost-to-cost percentage of completion as it is used for tax purposes," continued O'Brien. "We don't use percentage of completion at Grumman for financial statements because we believe that income is more clearly reflected by reporting it at the time we make shipments under the contract. This is the method of reporting income for financial statements that is used by many large aerospace companies."

O'Brien acknowledged that the task of dividing income over a long-term contract is an extremely complex issue. "I believe that, with the proper attention to the issue, a system can be delivered that will be fair to contractors and protect the revenue," he told the senators. "We already have provided a specific proposal to the staffs of the Finance Committee. It would gear the reporting of taxable income at the time a contractor has the right to receive payments under the contract including progress payments."

Dahlgard reports that following O'Brien's testimony the Senate Finance Committee released its tax bill; it did not include a tax increase for defense contractors.

The Senate version is expected to go to the floor for a vote right after Labor Day. Then the House and Senate bills will go to conference to iron out the differences. "We will know how successful our efforts have been by the closing days of the session, around October 8," says Dahlgard.■



A Cut Above The Rest. *A quality machining job in Glen Arm, Maryland, depends on Glen Richardson's work. He must accurately preset these cutting tools before he releases them to the machinists at this Machining Operations site. Once on the computer-controlled milling machines, the tools will precisely shape huge pieces of metal.*

A Best Seller In ESO — Grumman History Book

A new book titled "One Of A Kind—The Story Of Grumman" by aviation writer and historian Bill Gunston, is available through Employee Services for $10.25.

The book traces the development of Grumman and its aircraft from the 1930s to the present. Grumman worked closely with the author and the publisher during the book's preparation and is able to offer "One Of A Kind" to employees at an extreme discount.

The identical commercial version of the book titled "Grumman—60 Years Of Excellence" is being sold through bookstores throughout the country for nearly twice the price.

Retiree Obituaries

Alfred A. Allgeier of 27 57 Evans Rd., Oceanside, N.Y., died Aug. 2, 1988. He retired in 1977.

John F. Bassler of 35 Halloway St., Freeport, N.Y., died Aug. 2, 1988. He retired in 1967.

Howard R. Chieca of 1360 Welser Ave. NE., Palm Bay, Florida, died June 25, 1988. He retired in 1982.

William T. Cummings of High Hill, Box 3328B, Wading River, N.Y., died June 25, 1988. He retired in 1984.

Clifford L. Dettmer of 904 State St., San Diego, California, died May 31, 1988. He retired in 1963.

Eugene W. Dickerman of 95 Wisconsin St., Long Beach, N.Y., died June 1, 1988. He retired in 1977.

William F. Dunn of 744 Treat Ave., San Francisco, California, died June 23, 1988. He retired in 1970.

Edward H. Dunstane of 606 Pulaski Rd., East Northport, N.Y., died June 7, 1988. He retired in 1966.

Eugene Earley Jr. of 436 50th St., Lindenhurst, N.Y., died July 15, 1988. He retired in 1987.

William C. Egar Jr. of 963 N. Revere St., Mesa, Arizona, died July 7, 1988. He retired in 1972.

Helen Fogle of 666 N. Broome Ave., Lindenhurst, N.Y., died July 4, 1988. She retired in 1987.

Edward F. Gillespie of 412 First St. N., Cocoa Beach, Florida, died July 7, 1988. He retired in 1978.

Julius Goldfarb at P.O. Box 22176, Merritt Island, Florida, died July 30, 1988. He retired in 1986.

Edward W. Haas of 49 Del Prado, Pt. St. Lucie, Florida, died June 6, 1988. He retired in 1973.

Norman Holm of 32 Grove St., Hicksville, N.Y., died June 18, 1988. He retired in 1976.

Charles W. Horton of 126 Westwood Rd., Massapequa Park, N.Y., died June 6, 1988. He retired in 1972.

Wilbur L. Korrow of 159 Windmere Trail, Moneta, Virginia, died June 30, 1988. He retired in 1977.

Maybe Kralick of 302 Sutton Br. Rd., Gadsden, Alabama, died June 22, 1988. She retired in 1977.

Milton N. Kramer of 109-20 207th St., Queens Village, N.Y., died July 28, 1988. He retired in 1979.

Adolf Linden of 1042 Idlewild Rd., Dunedin, Florida, died June 16, 1988. He retired in 1961.

Herbert Looman of 40 Sunflower La., Toms River, New Jersey, died July 16, 1988. He retired in 1972.

Anthony Nuzzi of 53 Crescent Dr. S., Farmingdale, N.Y., died July 4, 1988. He retired in 1974.

Nicholas O'Krepki of 3487 NE Jeannette Dr., Jensen Beach, Florida, died June 4, 1988. He retired in 1985.

Eleanor F. Quinn of 16 Dana La., West Islip, N.Y., died June 28, 1988. She retired in 1984.

Alexander Robertson of 3791 25th Ave. North, St. Petersburg, Florida, died July 22, 1988. He retired in 1965.

Hubert Sheridan of 2163 Trailwinds Dr., Ft. Myers, Florida, died July 10, 1988. He retired in 1981.

Melanie J. Spencer of 180 Cypress Pt. So., Deland, Florida, died May 25, 1988. She retired in 1985.

Frank A. Spies of 4 Waters Ave., Hicksville, N.Y., died July 11, 1988. He retired in 1981.

Gregory Stilwagen of 51 Nadel Dr., Riverhead, N.Y., died June 25, 1988. He retired in 1984.

Herbert Timmerman of 174 Stanley Dr., Centereach, N.Y., died June 17, 1988. He retired in 1973.

Alfred J. Twachtman of 82-04 247th St., Bellerose, N.Y., died July 14, 1988. He retired in 1974.

Herbert J. Zier at P.O. Box 472, Northville, N.Y., died July 15, 1988. He retired in 1963.

Many Get New Assignments

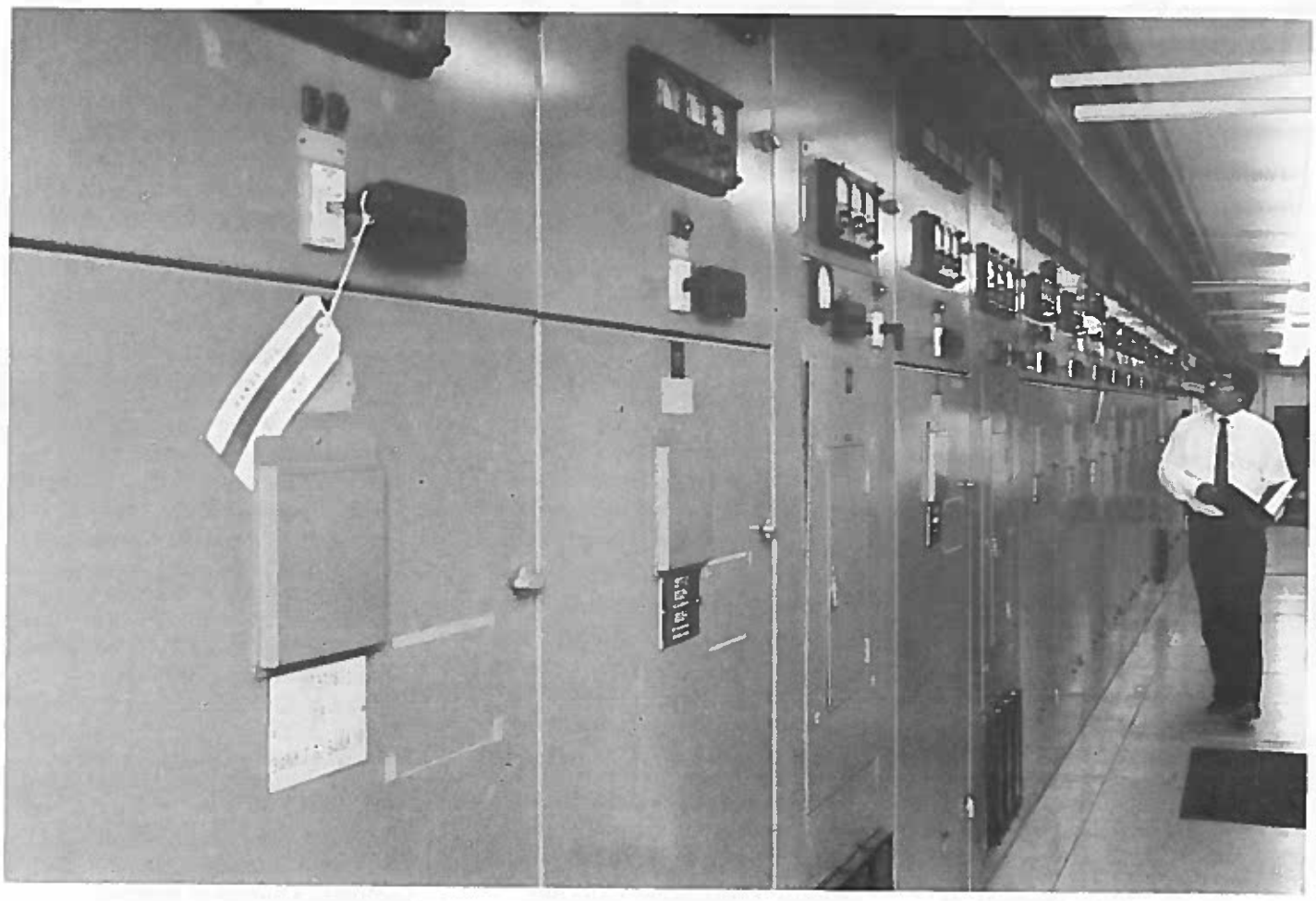
The following Grummanites recently received new assignments:

Aircraft Systems

Bethpage Operations: John Dengler, foreman, Electronic Fabrication.

Parts Fabrication Center: Ronald P. Nielsen, production manager, Detail Tool Fabrication and Prototype.

Technical Operations: Charles Dorchak, project leader, Systems Integration and Test; Chester Kalenty, group leader, Data Link, E-2C Program; Carl Micillo, director, Advanced Development; James Dante, engineering manager, Development for the F-14 Program; Charles Tilley, group head, Specifications; Henry Loshigian, director, Computer Aided Systems Technology; Thomas Dragone, manager, Computer Aided Engineering Projects; Gerald Ellman, engineering specialist, System Simulation and Integration; Jimmie Chin, group head, Stability and Control; Theodore Campbell, group leader, Computer Aided Structural Analysis; Alan Altschuler, group leader, Computer Aided Structural Analysis; Klaus Siebler, technical specialist, Sensor Signal Processing; Arthur Dubois, technical specialist, Systems Management and Control; John Wallace, engineering manager, E-2 Program; Norman Naps, deputy engineering manager, A to D Conversion, F-14 Program; John Gobler, deputy engineering manager, Development, F-14 Program.■



A Powerful Role. *In Bethpage's electric distribution substation, John Ingenito checks equipment monitoring Grumman's transformers. The substation disseminates power to Grumman buildings.*

Heat Wave Generates No Crisis At Grumman

This year, the dog days of summer have been unrelenting all across the U.S.A. The heat has brought discomfort but no major energy problems to Grumman's facilities.

August 3, 11, and 15 were the only days this summer that LILCO has asked Grumman to shut off unnecessary lights and machinery, and raise thermostats on climate-control equipment. The August 3 measure saved six megawatts of electricity; similar savings were reported on August 11 and 15.

During hot weather, residents and businesses crank up the air conditioning, straining LILCO's already-overburdened generators. Temporary power conservation, called load shedding, averts brownouts and blackouts.

"It was pretty quiet this summer until the August heat wave," says George Turney, director of Facilities Operations. "LILCO has been able to meet the demand by purchasing power from other energy utilities in the Northeast. Last year, it increased maintenance of its power plants. LILCO has also begun new energy conservation measures."

"On some days, LILCO's generators have been operating at near capacity," he adds. "That means if one of the plants fails, we could run into some problems. But so far, LILCO has been able to meet the demand."

Over the past few years, Grumman has had about a dozen occasions to rely on its load-shedding plan. During a crisis, LILCO notifies Grumman's Facilities Operations Center, which is next to Bethpage's Building 2. The operations center notifies superintendents at all Long Island buildings.

Crews dim lights and raise climate controls three to five degrees. At the center, computers keep track of electric usage. The crew keeps watch to make sure consumption doesn't creep back up before the scheduled end time.

"Even when load-shedding isn't in effect, some computers have shut down because the air conditioning just can't keep up with the heat and humidity," says Turney.

Several measures will alleviate the situation. Next July, a new electrical cogeneration plant will go into operation in Bethpage.

The plant is being built by a joint venture of General Electric, Brooklyn Union Gas, and TransCanada Pipelines. It will supply Grumman's Bethpage complex with 30 megawatts of electricity, and LILCO with the remaining 20.

In 1991, Long Island will be supplied with more power from upstate nuclear and hydroelectric generators, via a new transmission cable across the Long Island Sound. In 1995, the whole downstate region will begin receiving one million kilowatts of hydroelectric power from Quebec.

Sites off Long Island also take emergency power conservation measures. Aircraft Systems' Stuart, Florida, Operations experiences a power crunch — but during the winter. On cold mornings, home electric heaters cause demand to surge. To prevent blackouts, the local utility asks Grumman and other large users of electricity to open later.

Milledgeville Operations is saving power — and money — under an interruptable rate program. During peak summer periods, it can cost more for the utility to supply Grumman with power than can be billed. So, it asks Grumman to temporarily cut back usage.

All air conditioning is shut off, with the exception of composite layup and other selected critical areas.

Work in autoclaves is postponed. Ovens get shut down, too. The longest cutback lasted four hours.

The more Grumman cuts back, the cheaper the bill. From January through June of this year, it saved $141,000.

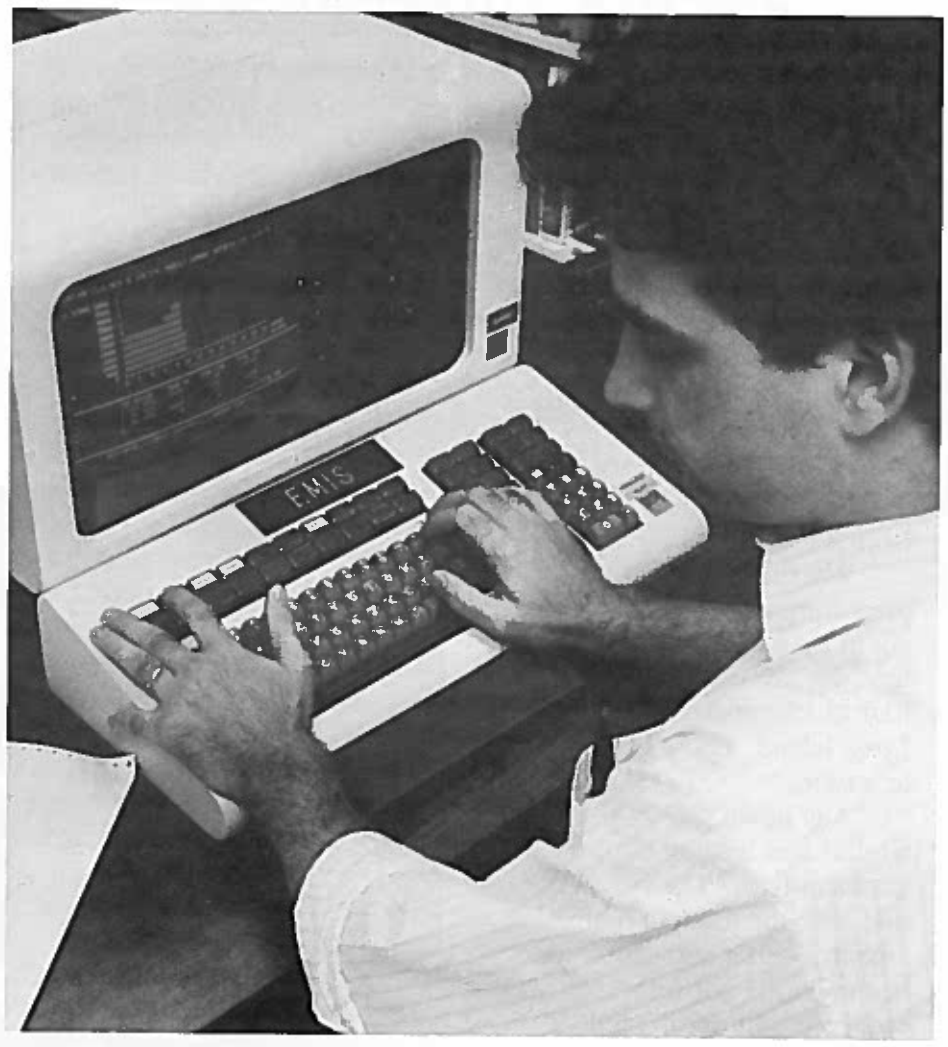
The Plainsboro, New Jersey, area has no energy crisis, but a water shortage.

There, Electronics Systems' Tachonics Corporation uses water throughout its production of gallium arsenide circuits. Incoming water pressure has dropped from an average 65 PSI (pounds per square inch) to about 38 PSI.

By the time water goes through necessary deionization, the water pressure drops even more — on occasion, low enough to trigger automatic shutoff switches on equipment.

Fortunately, the plant has a 4,000 gallon water tank as a backup, which is filled with water that has been purified after the production cycle.

"The heat affects Grumman facilities in other ways," says Turney. "To water the grass around Long Island buildings, Grumman must heed the same time-of-day and odd/even-day restrictions as residents. The heat also speeds the deterioration of pavement."■



Minute By Minute. *In the Facilities Operations Center, Jim Dosch uses the Energy Management Information System to get information on kilowatt consumption of Grumman's Long Island buildings. The information is updated every two minutes. (Photos by Bob Settles)*

People

Double Celebration. *Twin brothers Frank (L) and Vincent Christina were hired by Grumman on the same day 25 years ago.*

Double Careers

From the time they were kids, Frank and Vincent Christina shared the same dream — to work in the aerospace industry. As a matter of fact, a lot of what they think and do is the same, even the way they look. They are twins.

The Christina brothers, both group leaders in Grumman's Space Systems Division, began working at Grumman 25 years ago. After graduating from the same college as structural engineers, they were hired by Grumman on the same day. Their badges are one number apart.

The two began their careers working together on the LM program. Through the years, they worked separately on some and together on other programs until both eventually wound up on the Boost Surveillance Tracking System (BSTS) program.

Frank laughs as he recalls the old days when he got a raise and his boss jokingly told him to split the money with his brother. "It's funny, but we really have shared our knowledge," says Frank, who is the slightly more mild-mannered of the two. "We have double the experience to learn from."

Wearing the same prescription glasses that they got at the same time, both brothers are married and live four blocks apart in Shoreham, Long Island. Frank is married to a twin.

Any down side of being so similar and leading almost identical lives? The two agree that with the exception of being embarrassed a few times, it's been nothing but fun.

"Vincent doesn't tell everyone he's a twin," says Frank. "Sometimes it's a little awkward when people he knows see me and think I'm being snobby because I'm not talking to them."

The best part about being a twin at Grumman — "We've gotten to meet twice the amount of people and made twice the amount of friends in half the time," says Frank.

Although it's many years away, retirement may be the first time Frank and Vincent separate. Vincent wants to retire in Colorado and Frank wants to settle in New England. "It'll be tough," says Frank.

"It sure will," says Vincent. "But let's not talk about it, it's a long way off."

American Import

The game of lacrosse, invented 1,000 years ago by the native Americans, is unknown in some corners of the U.S. But it's fast becoming popular in Japan — and Grummanite Norio Endo is partly responsible for bringing it there.

In less than two years, about 20 men's and women's teams have been started at universities and secondary schools in Japan. The Japanese aim to send a women's team to Australia to compete in the World Lacrosse Games in 1989, and a men's team in 1990.

"It started four years ago in a discussion I had with Ross Jones, vice president of Johns Hopkins University," says Endo, vice president—Northern Pacific Region for Grumman International and head of Grumman's Tokyo office. "We had this wild idea that the Japanese would love lacrosse. So we said, 'let's do it'."

Later, Hopkins athletic director Bob Scott went to Japan to conduct clinics for students interested in lacrosse. In 1987, Endo and other business people formed the Japan Lacrosse Association.

An important benefit, says Endo, is promoting better cross-cultural ties. "Many college and high school kids in the two countries have become friends as a result of lacrosse," says Endo. "And those friendships may lead to business relationships later in life."

Let's Go, Joe!

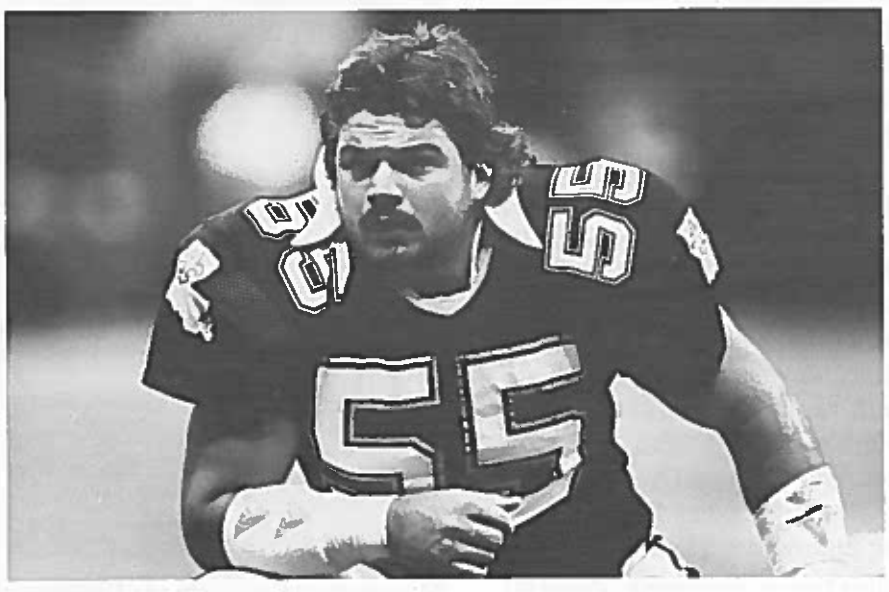
Some people dream of launching rockets into space. But Technical Services' Joe DeForest has temporarily left behind the launch pads of the Kennedy Space Center to tackle a different dream: making an NFL football team.

As we went to press, DeForest was trying to earn a linebacker job with the New Orleans Saints at their summer camp in La Crosse, Wisconsin. He is a logistics engineer on the Shuttle Processing Contract team. His supervisor, Ed Heiner, thinks his chances are good.

"I watched him play about half the game against Minnesota," says Heiner, who used to be president of the local Pop Warner football league when DeForest played. "He did very well; it looks like the Saints are giving him a real good look."

DeForest was drafted by the Houston Oilers in 1987 after he graduated from the University of Southwestern Louisiana. Though they cut him, he was later signed by the Saints to fill in during the NFL players strike. He impressed the coaches with his play and refueled his dream for an NFL career.

"No one can make you believe you're not good enough to play unless you can look in the mirror and accept it yourself," he told *Sports Illustrated* last year. "For me, the dream is as hot as ever right now."



Goal To Go. *Grummanite Joe DeForest has worked hard to earn a spot on one of the best linebacking units in the National Football League.*

Obituaries

Patrick Aguanno of Engineering-GDS Financial, Woodbury, Data Systems Division, died June 3 at the age of 35. He had been with the company since 1982 and resided at 16 Narragansett Ave., Medford, N.Y.

Augustine V. Andrews of Manufacturing Technology, Great River, Electronics Systems Division, died June 28 at the age of 61. He had been with the company since 1965 and resided at 8 Oelsner Dr., Northport, N.Y.

Jean T. Beagorn of Accounting/Finance, Woodbury, Data Systems Division, died June 24 at the age of 58. She had been with the company since 1955 and resided at 16 Grove Ave., Bayshore, N.Y.

Michael V. Byrnes of Test and Support, Great River, Electronics Systems, died July 28 at the age of 62. He had been with the company since 1965 and resided at 12 Essington La., Huntington Station, N.Y.

John W. Cotter of Radar, Melville, Aircraft Systems Division, died July 3 at the age of 53. He had been with the company since 1962 and resided at 15 Floyd La., Commack, N.Y.

Cleopatra Courten of Material Management, Bethpage, Aircraft Systems Division, died July 14 at the age of 54. She had been with the company since 1972 and resided at 32 Nursery Rd., Huntington Station, N.Y.

Harris Davis of Navigation and Control Equipment Design, Melville, Aircraft Systems Division, died July 20 at the age of 57. He had been with the company since 1970 and resided at 24 Corsa St., Dix Hills, N.Y.

Franke E. Johnson of Grumman Data Systems Institute, Bohemia, Grumman Data Systems Division, died July 25 at the age of 48. He had been with the company since 1981 and resided at 160 Pennsylvania Ave., Medford, N.Y.

Robert W. Welsch of Engineering/Facilities, Webster, Grumman Houston Corporation, died June 23 at the age of 62. He had been with the company since 1951 and resided at 16623 Townes, Friendswood, Texas.

Harry A. Koss of Systems Test Laboratory, Webster, Grumman Houston Corporation, died July 14 at the age of 48. He had been with the company since 1968 and resided at 913 Merriman Ct., Friendswood, Texas.

Bruce C. Saidler of ILS Supply Operations, Aircraft Systems Division, died August 2 at the age of 54. He had been with the company since 1965 and resided at 187 Sayville Blvd., Sayville, N.Y.

Personals

My family and I sincerely wish to thank all my friends, co-workers and ESO for their concern and many kind expressions of sympathy and support during the recent loss of my father. **Gene Earley**

My wife and I wish to thank our many friends and co-workers at Grumman who sent warm expressions of sympathy upon the death of our son Tony Schumacher Jr. **Tony Schumacher**

I want to thank all my friends and co-workers for their many expressions of concern and wishes for a speedy recovery during my recent illness. **Harry Ryan**

My family and I wish to sincerely thank our friends and my co-workers at Grumman for their kind expressions of sympathy and support during the recent loss of my mother. **Don Schlegel**

Here Are Eight Ways To Cut Car Rental Costs

Approximately 28,000 rental cars are used each year by Grummanites for company business. That costs Grumman about $3 million.

After analyzing all the bills, Grumman Travel Operations found that many car rental bills would be reduced if Grummanites pay more attention to three areas: refueling costs, claims for car rental damages, and the size of the cars being reserved.

To help eliminate some of these expenses as well as some of the other problems related to the use of rental cars, the following guidelines should be followed:

- Grummanites should decline CDW (collision damage waiver) charges and additional accident/medical insurance on all business travel rentals, except on international assignments (including Alaska and Hawaii).
- Make sure you return all rental cars with a full tank of gas to avoid the higher rates for gas charged by rental agencies.
- The company policy that requires the use of compact cars must be enforced. Compact cars are large enough to accommodate one or two people regardless of their height.
- When you return a local rental car, make sure you notify Travel Operations on Long Island, the local field administrator at other sites or the car rental agency directly with the time and place of return. If you don't, extra day charges for car rentals that are not being used are imposed. If you need to keep the rental car longer than you originally requested, notify Travel Operations or your field administrator.
- Make sure your rental car is inspected before taking it on the road. Damages that are not noted on the rental agreement should be reported immediately to the rental agency, field administrator, or Travel Operations before the vehicle is used, not after it is returned.
- Late cancellation for local car rentals will result in a one-day charge to the company. If you are having a car delivered to a distant location for pick-up (airports, hotels, out of the way company facility), more than a two-hour notification is required, especially on weekends, early Monday morning deliveries and during bad weather conditions.
- Alcoholic beverages in rental cars are forbidden. DWI laws are strictly enforced with severe penalties.
- If you are using a local car rental on a long-term basis (one month or longer) it must be safety inspected every 30 days. New rental agreements will be issued and the car will be washed.
- If you have any questions about these guidelines contact Josephine Brune, manager of Travel Operations, AO5-117, (516) 575-2727.■

Grumman Wins Award For Supporting Reserves

Grumman recently received an award from the National Committee for Employer Support of the Guard and Reserve Forces.

At a luncheon held in Grumman Headquarters, the company was lauded for supporting employees who participate in the Military Reserve Forces. Colonel James Peterson, the U.S. Army's chief of Public Affairs, presented the award. It is one of only six awards given annually to companies nationwide.

They've Got Reserve Support. *John Papazian, director of Corporate Regional and Field Offices (second from L) recently accepted an award presented to Grumman for its support of the National and Guard Reserves. (From L to R) C.J. Becker Jr., manager of the Grumman Orlando Field Office and captain, U.S. Naval Reserve; Colonel James Peterson; and Dan Huebner, vice chairman, Corporate Development.*

Readership Survey

We don't want to do all the talking. We'd like to know what you think about the things you see in these pages. Your comments, suggestions and complaints are welcomed. Please take a few minutes and give us your opinions.

Article	Great	Good	Poor	Didn't Read
Quarterly Report (P. 1)	☐	☐	☐	☐
Real Estate (P. 2)	☐	☐	☐	☐
Pin Meeting (P. 3)	☐	☐	☐	☐
Long-term Contract Taxes (P. 5)	☐	☐	☐	☐
Total Quality Facilitators (P. 6)	☐	☐	☐	☐
Heat Wave (P. 9)	☐	☐	☐	☐

Suggestions For Future Articles:.....

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Mail to: Grumman World, A22-GHQ

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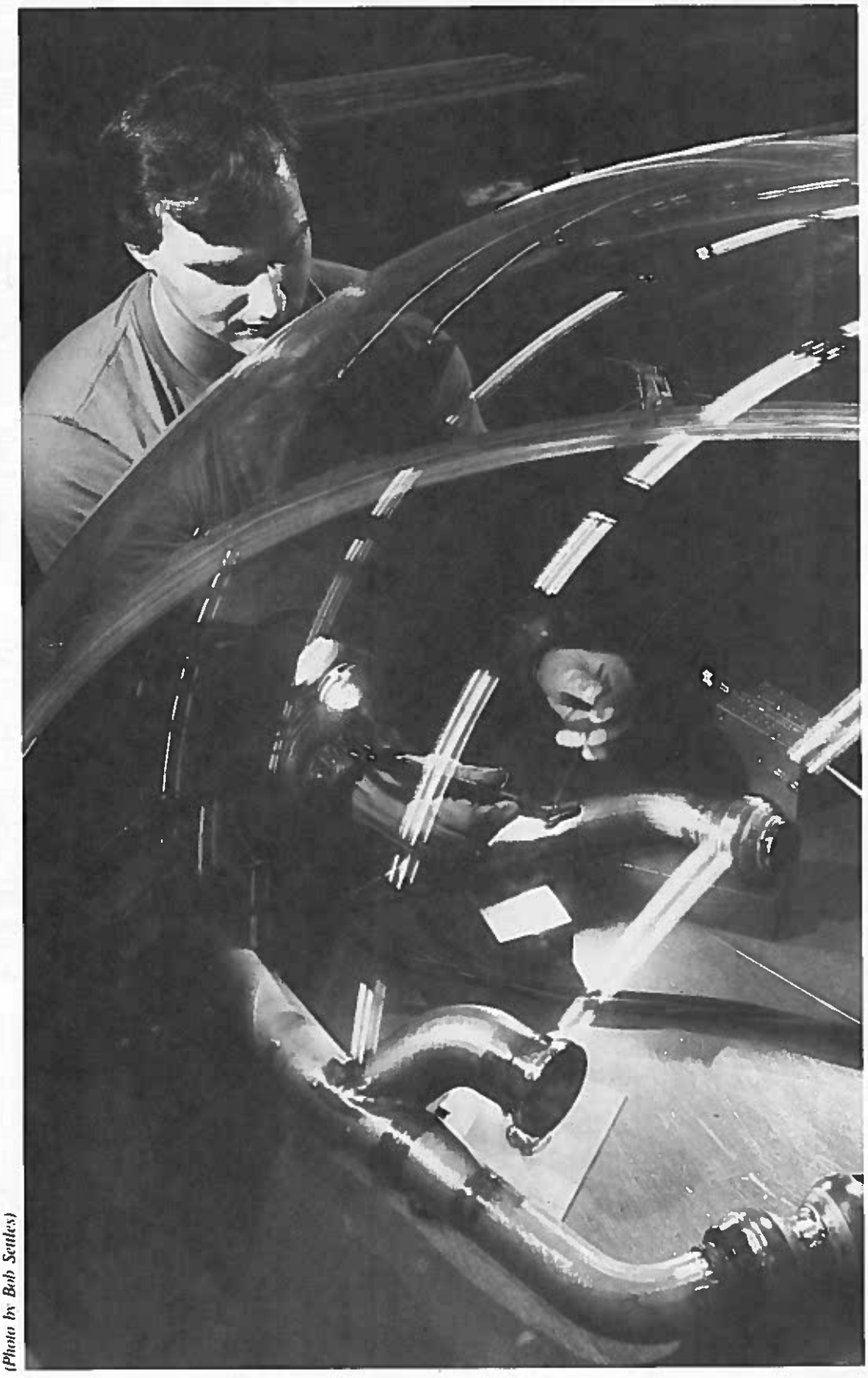
August 26, 1988



(Photo by Bob Seitles)

A Clean Operation

David Westergaard of Steel Welded Assemblies welds an F-14 powerplant duct assembly inside the inert gas environment chamber in Building 3, Bethpage. The chamber protects the part from contamination by the atmosphere.

Contamination can occur if materials such as Inconel, a nickel-based super alloy used to make the duct assembly, are exposed to oxygen and nitrogen at the high temperatures of the welding process. In the chamber, the oxygen and nitrogen are replaced with the inert gas, argon.

The powerplant duct assembly is a critical part of the aircraft. It transmits air from the plane's engines to vital parts of the aircraft including the black boxes and other navigation systems.

Got The 'Return To Sender' Blues?

If the letters you send to the Grumman Melbourne Systems Division are coming back stamped "Unable To Forward," or "Return To Sender," check the address. Melbourne mail should be addressed in one of these two ways:

Grumman Melbourne Systems Div.
P.O. Box 9650
Melbourne, Fl 32902-9650
(Attention.....and Mail Stop....)

or

Grumman Melbourne Systems Div.
P.O. Box 9650
2000 NASA Blvd. West
Melbourne, FL 32902-9650
(Attention.....and Mail Stop.....)

Deliveries of overnight mail, parcel post, equipment, supplies, etc. should be addressed:

Grumman Melbourne Systems Div.
2000 NASA Blvd. West
Melbourne, Fl 32904-2322
(Attention.....and Mail Stop.....)

These addresses are the ones recognized by the U.S. Postal Service. If you have questions call James Gilliam, 407-951-5381.

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